



## PATENT ABSTRACTS OF JAPAN

(11) Publication number: 2002091385 A  
 (43) Date of publication of application: 27.03.2002

(51) Int. Cl. G09G 3/36

G02F 1/133, G02F 1/13357, G09F 9/00, G09G 3/20, G09G 3/32,  
 H01L 33/00, H04M 1/00, H04M 1/725

(21) Application number: 2000275996

(22) Date of filing: 12.09.2000

(71) Applicant: MATSUSHITA ELECTRIC IND CO  
 LTD

(72) Inventor: OKAMOTO KAZUO

(54) ILLUMINATOR

(57) Abstract:

PROBLEM TO BE SOLVED: To realize a function for enhancing visibility such as contrast and a function for saving power by performing the illumination of an LED(light emitting diode) unit corresponding to respective pixels of an LCD(liquid crystal display).

SOLUTION: In this illuminator, the illumination of the LCD is constituted of LEDs. One piece of the LED is arranged for every three pixels of R, G, and B of the LCD and one piece of a white LED equivalent to the portion of the resolution of the LCD is arranged by ba-

ing made to correspond to the three pieces of R, G, and B of the LCD. The driving of the LEDs is performed with information to be received from an LCD controller. When the black of the LCD is to be displayed, corresponding LEDs are all turned OFF. Thus, the illuminator can enhance the visibility by raising the contrast and also has large power saving effect.

COPYRIGHT: (C)2002,JPO

